

~~SECRET~~NPIC/TDS/D-979-67
17 August 1967

MEMORANDUM FOR: Director, National Photographic Interpretation Center

SUBJECT : Evaluation of [] of the []

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REFERENCE : Your Note Regarding Subject Dated 17 July 1967

1. On 7 August 1967, [] of my Staff met with [] (SI, T, KH clearances) of the [] to discuss the capabilities of their [] This Division is part of the []

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2. This Division is located at the [] [] heads a 15-man group of programmers at this office who specialize in developing programs concerned with missile systems. Most of the personnel have system clearances such as KH-4 and KH-7 clearances, but no one at the Rosslyn office has operational clearances. [] is in charge of a group of programmers who have done considerable work on programs related to KH-4 and KH-7 systems. Individuals at this office also specialize in human factors problems and automated data reduction. [] said that an additional 200 [] employees at their [] location can be called upon for assistance.

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3. IPD is aware of the existence of this Division of [] and has dealt with them in the past. In October 1966, a [] contract [] for computer programming services was successfully completed by [] for IPD. [] was pleased with the performance of the contract and has maintained continuing contact with [] While the type of service performed by the [] appears to fall primarily into the category of work performed by IPD, the Technical Development Staff will consider the possibility of utilizing their talents under appropriate projects.

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4. [] did pass on some information about [] Rapid Search Machine, a specialized type of electronic device used for information handling. We have made no evaluation of the potential of this

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Excluded from automatic
downgrading and
declassification

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SUBJECT: Evaluation of [redacted] of the [redacted]
[redacted]

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equipment, but literature concerning this device is attached for your information. Information on this equipment is also being sent to IPD.

[redacted]

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Colonel, USAF
Assistant for Technical Development, NPIC

Attachment:
As stated

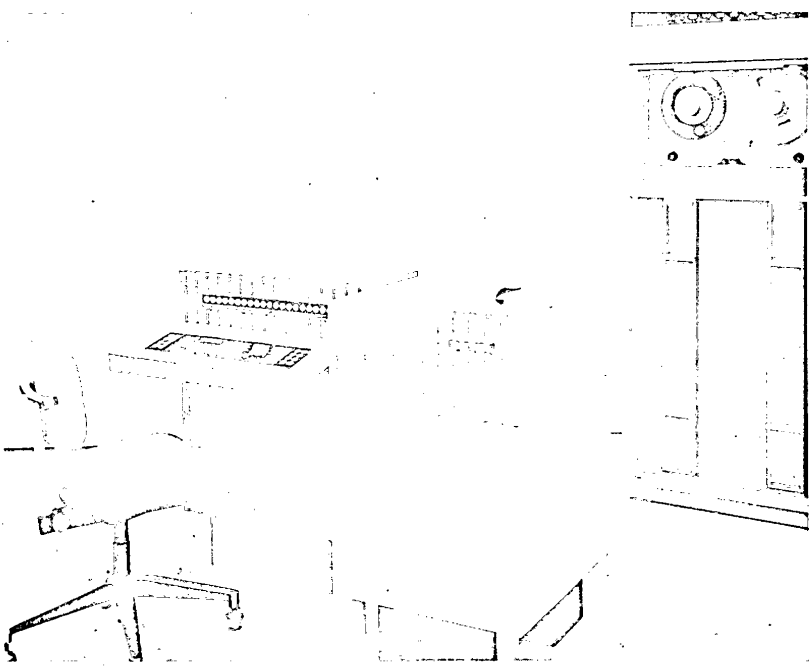
Distribution:
Orig & 1 - Addressee
1 - NPIC/IPD
1 - NPIC/TD/A
3 - NPIC/TD/DS

NPIC/TDS/DS [redacted] (17 Aug 67)

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RAPID SEARCH MACHINE

A NEW SOLID STATE ELECTRONIC DEVICE WITH THE CAPABILITY OF UTILIZING
NATURAL LANGUAGE FOR INFORMATION SEARCH, RETRIEVAL, AND DISSEMINATION

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CAPABILITIES

The Rapid Search Machine utilizes direct input of natural language information, as well as coded, indexed, or structured information files. All basic design work has been completed and a prototype has been built and checked out.

This machine is queried by a request of logically connected search words describing information wanted and by using the same language utilized in the information file.

Identification numbers of the records that satisfy the request are the primary output of the Rapid Search Machine. In addition, an output mode is available that provides selected portions of the requested information to the user.

This compact unit is the only existing single device now offering these important advantages:

- Natural language searching.
- Rapid low cost searching.
- Information dissemination.
- No programming or indexing.
- Operates independently.
- Compatible with existing computer systems.

This machine is equipped with a number of attractive features that render it a particularly efficient information

searching device. It has the capability to:

- Provide an associative search.
- Perform as a dissemination device, as well as an information retriever.
- Search magnetic tape forward or backward.
- Utilize a counting feature that enables machine users to perform statistical analysis of the information file.
- Process multiple requests by a single search of the complete information file.
- Search selected portions of the file and/or select portions for output.
- Accept less than an exact match.

The requestor may choose to:

- Link request words by AND, OR, AND NOT.
- Modify request words by specifying a variable prefix, suffix, or root.
- Search for phrases or individual words.
- Use a universal match character, when exact spellings or formulas are unknown or not required.

SYSTEM CONFIGURATION

System configuration will be determined by individual user needs. The following are available:

- **REQUEST INPUT**

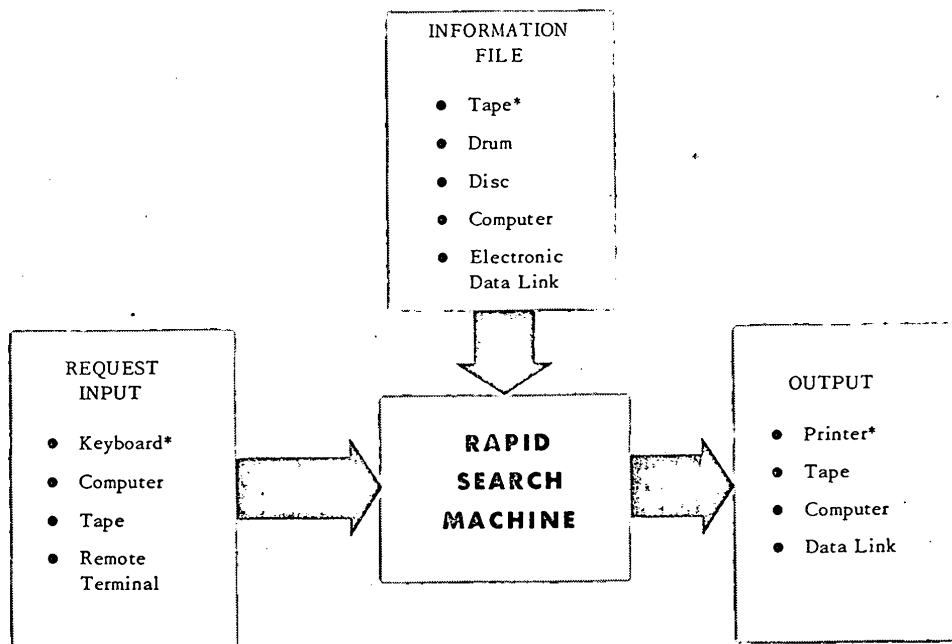
Request inputs may be from keyboard, computer, tape, or remote terminal.

- **INFORMATION FILE**

Information may be from tape, drum, disc, computer, or electronic data link.

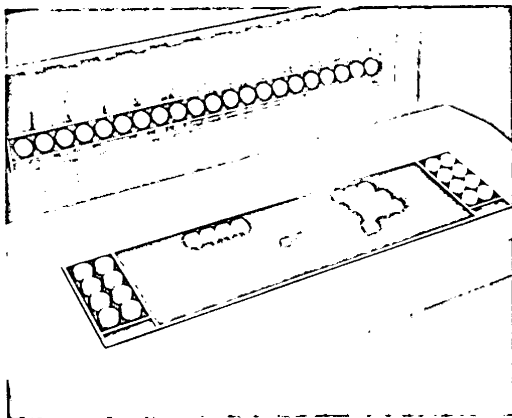
- **OUTPUT**

The output may be to a printer, tape, computer, or data link.



*Demonstration Model Configuration

SYSTEM SPECIFICATIONS



PHYSICAL

Power: 850 watts, 117 V, 60 cps (less tape transport)
Weight: 410 pounds (less tape transport)
Size: 52 inches long by 25 inches wide by 38 inches high (less tape transport)
Electronics: Associative logic: TTL
I/O Control logic: DTL.
Data driver, cable driver and receivers,
Lamp Driver: discrete.

LOGICAL

Logical Connectives Used in the Request:	AND, OR, AND NOT. Also accepts partial request satisfaction.
Characters in Request:	80 characters
Fields in Request:	4 fields

*The above specifications are for the RSM prototype only.

APPLICATIONS

Information Dissemination
Library Operations
Legal Brief and Patent Searches
Man-Job Matching
Market Analysis Operations
Technical Data Center Operation
Statistical Analysis
Survey Operations